Thinking and acting sustainably

BRIDLEWAY

CYPLEWAY

Profile of a 21st Century Professional



The Institution of Environmental Sciences

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Introduction



About the workshop

About us

- Institution of Environmental Sciences
- Professional Practice for Sustainable Development (PP4SD)

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Purposes

- Improving awareness of the principles that underpin SD
- Identifying drivers for change
- Improving awareness of the benefits of SD
- Exploring ideas on to integrate SD principles into professional practice
- Applying systems thinking
- Developing personal action plans

1 - Exploration

- Exploring ideas about sustainability and its relevance to lifestyles and business.
- Identifying some key principles of sustainability.
- Making a case for sustainability

2 - Thinking and communicating

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- Case studies
- Joined up thinking methodology
- Practice

3 - Preparing for action

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- Planning for a future/Backcasting
- Change
- Action Planning

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Introductory activity



What is sustainable development all about?















Questions to ask

Natural

These are questionds about the environment - energy, air, water, soil, living things and their relationships to eachother. These questions are about the built as well as the 'natural' environment.

Who decides? These are questions about power, who makes choices and decides what is to happen; who benefits and loses as a results of these decisions and at what cost.

Economic

These are questions about money, trading, aid, ownership, buying and selling.

Social

These are questions about people, their relationships, their traditions, culture and the way they live. They include questions about how, for example, gender, race, disability, class and age affect social relationships.

 Meets the needs of the present without compromising the ability of future generations to meet their own needs ...

... The concept does imply limits, not absolute limits, but ones imposed by the present state of technology and social organisation on environmental resources and by the ability of the biosphere to absorb the effects of human activities.



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Living Within Environmental Limits Respecting the limits of the planet's environment, resources and biodiversity to improve our environment and ensure that the natural resources needed for life are unimpained and remain so for future generations.



Ensuring a Strong, Healthy & Just Society

Meeting the diverse needs of all people in existing and future communities, promoting personal wellbeing, social obhesion and inclusion, and creating equal opportunity for all.

Achieving a Sustainable Economy Building a strong. stable and sustainable economy which provides. prosperity and opportunities for all. and in which environmental and sucial means fall on. those who impose them (Polluter Pays). and efficient resource. use is incentivised.

Using Sound Science Responsibly Ensuring policy is developed and implemented on the basis of strong scientific evidence, whilst taking into account scientific uncertainty (through the Precautionery Principle) as well as public attitudes and values.

Promoting Good Governance Actively promoting effective, participative systems of

governance in all levels of society ongriging people's creativity, energy, and diversity.

Economic

Environmental

Social



The QoL UK Wild Bird Indicator



 Sustainability is a goal, a state to which we can aspire. It is not very controversial

 Sustainable development is the process of moving closer to sustainability. It is controversial because there is often disagreement on the best way to make progress

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Drivers for Change



What are the pressures?

Drivers for Change: Finite Resources



All the water and air in the world. On the left, all the world's water is shown as a ball covering central Europe. On the right the entire atmosphere at sea level pressure.

Composed by Dr Adam Nieman from topographical data.

Drivers for Change - Population



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Drivers for Change - Climate

The Independent

28 April 2007

As April temperatures break all records, will this be the summer when Britain reaches

and the effects of climate change are painfully brought home?

Drivers for Change - Peak oil



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Drivers for Change - Traffic

Road Traffic - Great Britain



Natural Step - system conditions

- In a sustainable society nature is not subject to systematically increasing
 - Concentrations of substances extracted from the Earth's crust.
 - Concentrations of substances produced by society.
 - Degradation by physical means,
 AND in that society
 - Human needs are met world-wide.

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Case Studies



How others have approached sustainable development

Case studies

- Read the case study and prepare to feedback on the following:
 - What is being done for sustainability?
 - Why is being done?
 - What are the most significant success factors?
 - Personal comments



If you have to take a car to work, you could set an example by making sure it isn't a gas-guzzler

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Building the case for SD



Why SD can be good for the Earth, people and business

The economic case

 A report by economist Sir Nicholas Stern suggests that global warming could shrink the global economy by 20%.

 But taking action now would cost just 1% of global gross domestic product, the 700page study says.



The supply and demand case



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The business case



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BHP Billiton

The eco-system case

Projected Impacts of Climate Change Global temperature change (relative to pre-industrial) 0°C 1°C 2°C 3°C 4°C 5°C Food Falling crop yields in many areas, particularly developing regions Falling yields in many Possible rising yields in developed regions some high latitude regions Significant decreases in water Water Small mountain glaciers Sea level rise availability in many areas, including disappear - water Mediterranean and Southern Africa threatens major cities supplies threatened in several areas Ecosystems Extensive Damage Rising number of species face extinction to Coral Reefs Extreme Rising intensity of storms, forest fires, droughts, flooding and heat waves Weather Events **Risk of Abrupt and** Increasing risk of dangerous feedbacks and Major Irreversible abrupt, large-scale shifts in the climate system Changes

Stern 2007

The social case for SD

ADULT **PLAYGROUND RULES**

NO LAPTOP OR CELL PHONE USE ALLOWED.



NO WORRYING ABOUT DEADLINES.



NO BUSINESS SUITS ALLOWED.



NO BUSINESS MEETINGS.



TAKE BACK YOUR TIME

RECESS ISN'T ONLY FOR KIDS WWW.TIMEDAY.ORG



MAKE POVERTY **HISTORY**



2. Drop the debt

3. More and better aid

www.makepovertyhistory.org



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The challenges



What are the main challenges facing your business / organisation?

Housing

- Increase new housing supply in England to 200,000 net additions per year, compared to around 150,000 now.
- Ensure the environmental sustainability of new housing.
- Implications for economy, society and environment?



Waste disposal

- The average household produces over a tonne of waste a year.
- Implications?



Production and consumption



Inequality

WORLD DISTRIBUTION OF PER CAPITA GDP BY COUNTRY

U.S. Dollars, at PPP



GDP per capita, 2002 U.S. 2002 \$ thousands




Trust

Which institutions do you trust?

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Using the tools



Joined-up thinking and planning

Joined-up thinking?



"The government has to confront the contradictions in its policies," said Dr Brenda Boardman, from Oxford University's Environmental Change Institute.

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What is a system?



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Joined-up practice

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• Everything affects everything else

 There is no such thing as a free lunch

The natural cycle



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Ecosystem services

- Goods eg water, food, resources
- Regulation eg air quality, water flow
- Cultural eg recreation, inspiration
- Support eg soil formation, nutrient cycling

- from South Africa's National Water Act 2005

Undermining the system



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Applying joined-up thinking 1



Looking at the whole picture

Joined-up thinking



Environmental and social impacts

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The Five Capitals



A means of analysing problems and solutions

The Five Capitals

- Natural capital
- Social capital
- Human capital
- Manufactured capital
- Financial capital



Natural capital

- What does it mean?
 - the natural resources (energy and matter) and processes needed to produce products and deliver services
- Why is it important?

 everything will draw on or impact on the natural environment in some way

Social capital

What does it mean?

- value added to a business or community from human relationships, partnerships and cc-operation
- Why is it important?

societies and economies rely on social interactions to achieve their objectives

Human capital

- What does it mean?
 - the health, knowledge, skills, intellectual outputs, motivation and capacity for relationships
- Why is is important?

 to be successful, all enterprises depend on individuals to be motivated and skilled

Manufactured capital

What does it mean?

 material goods and infrastructure that contribute to production or service provision (tools, technology)

• Why is it important?

 it is the basis of further development and should be developed, delivered or used in a sustainable manner

Financial capital

• What does it mean?

- the productive value of the other capitals that exist in a form of currency that can be owned or traded
- Why is it important?

 it is the traditional and primary measure of economic performance



Joined-up thinking

Woodland Astoration Consequences Activity Inputs Cleavance & Equipment & Employment K Planting & Saplings & Biodiversity Visitovs E Construction & Materials & Tincler Woodland R Aggregate Vandalism Truffic

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Applying joined-up thinking 2



More practice

Applying joined-up thinking 2

• My professional activities and how they increase or decrease the Five Capitals.

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Five years ahead



Where do we want to be?

The sustainability spectrum of businesses

1 st Wave Organisation		2nd Wave Organisation		3rd Wave	
Opposition	Ignorance	Risk	Cost	Competitive advantage	Transformation
Rejection	Non responsiveness	Compliance	Efficiency	Strategic proactivity	The sustaining corporati
 Elite seeks profit maximisation and treats all resources as means to that end. H&S lip service. Opposition to government and green activists. Community claims seen as illegitimate. 	 More ignorant than oppositional. Seeks business as usual, compliant workforce. Ignores any negative environmental impacts. 	 Focuses on reducing risk of sanctions for failing to meet minimum standards. Reactive to community and legal requirements. Follows route of compliance plus proactive measures to maintain good citizen image. 	 Introduces human and environmental policies to reduce costs and increase efficiency. 	 Seeks to be employer of choice. Seeks stakeholder engagement to innovate safe, environmentally friendly products and processes. Advocates good citizenship to maximise profits. 	 Reinterprets the nature of the corporation to an integral self- renewing element of the whole of societ in its ecological context – and tries to renew this.

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Action Planning



What I can and will do

Action Planning



Sources of information

- Government web site : http://www.sustainable-development.gov.uk/
- Sustainable development commission: http://www.sd-commission.org.uk/index.php
- Local government association: http://www.lga.gov.uk/home.asp
- United Nations: http://www.un.org/esa/sustdev/

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Evaluation



How useful has it all been?

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